Applicant: James C. Liao Attorney's Docket No.: 06497-013002

Applicant : James C. Liao Serial No. : 10/048,186 Filed : June 19, 2002

Page : 2 of 13

## Amendments to the Specification:

Please replace the paragraph beginning at page 2, line 7 with the following amended paragraph:

Accordingly, in one aspect, the invention features a bacterial host cell containing a nucleic acid sequence comprising a promoter and a nucleic acid sequence encoding a heterologous polypeptide. Examples of bacterial host cells include Escherichia coli, Bacillus subtilis, Salmonella typhimurium, Agrobacterium tumefaciens, Thermus thermophilus, and Rhizobium leguminosarum cells. The nucleic acid sequence is operably linked to the promoter which is controlled by a response regulator protein. In other words, the nucleic acid sequence is linked to the promoter sequence in a manner which allows for expression of the nucleotide sequence in vitro and in vivo. "Promoter" refers to any DNA fragment which directs transcription of genetic material. The promoter is controlled by a response regulator protein, for example, ntrC, phoB, phoP, ompR, cheY, creB, or torR, of E. coli or its homologs from other bacterial species. Further, the response regulator protein can be another member of the cluster orthologous group (COG) COG0745 as defined by http://www.ncbi.nlm.nih.gov/COG/ www.ncbi.nlm.nih.gov/COG/ (Tatusov et al. Nucleic Acids Res. (2000); 28:33-36). In one implementation, the promoter is bound by E. coli ntrC. The term "ntrC" refers to both the E. coli ntrC protein (SWISSPROT: P06713, http://www.expasy.ch/) www.expasy.ch/ and its homologs in other bacteria as appropriate. As used herein, "bound" refers to a physical association with a equilibrium binding constant (K<sub>D</sub>) of less than 100 nM, preferably less than 1 nM. An example of the promoter is the E. coli glnAp<sub>2</sub> promoter, e.g. a region between positions about 93 and about 323 in the published DNA sequence, GenBank accession no. M10421(Reitzer & Magasanik (1985) Proc Nat Acad Sci USA 82:1979-1983). This region includes untranslated sequences from the glnA gene. Further, a translational fusion can be constructed between coding sequences for glnA and coding sequences for the heterologous polypeptide.

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Serial No. : 10/048,186
Filed : June 19, 2002
Page : 3 of 13

Please replace the paragraph beginning at page 2, line 30 with the following amended paragraph:

The host cell is genetically modified such that the promoter is regulated by acetyl phosphate in the absence of nitrogen starvation. For example, the host cell can genetically modified by deletion or mutation of a gene encoding a histidine protein kinase, e.g., a member of COG0642 as defined by (http://www.nebi.nlm.nih.gov/COG/ www.ncbi.nlm.nih.gov/COG/; Tatusov et al. supra.), e.g., glnL, phoR, phoQ, creC, or envZ. In another example, the histidine protein kinase has specificity for the response regulator protein which controls the promoter. The histidine protein kinase can be encoded by glnL, e.g., E. coli glnL (SWISSPROT P06712; http://www.expasy.ch/ www.expasy.ch/).